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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,067	02/28/2005	Toshihiro Hayata	Q86430	6623

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EXAMINER	
HO, HUY C	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,067	HAYATA, TOSHIHIRO	
	Examiner	Art Unit	
	Huy C. Ho	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,5-7,10,11,13,16-18,21,22,24,26,29 and 31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,5-7,10,11,13,16-18,21,22,24,26,29 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 February 2005* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. Claims 29 and 31 are rejected under 35 U.S.C. 101 because cited phrase "A program for causing a computer to execute operations" is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 2, 5-7, 10-11, 13, 16-18, 21-22, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim et al. (7,190,944)** and further in view of **Virtanen (2001/0008521).**

Consider claims 2, Kim discloses a mobile communication system that includes a mobile station and a mobile communication network to which this mobile station can connect by radio-waves, and that includes a compressed mode, which is a mode of intermittent communication having gaps in which

communication is not carried out in mobile communication between said mobile station and said mobile communication network **(see the abstract, col 2 lines 22-28)**, said mobile communication network comprising:

Kim discloses:

transmission means for, at a time of inter-frequency HO (Hand Over), using said gaps to transmit to said mobile station by an HO destination frequency **(the abstract, col 1 lines 10-25, col 2 lines 29-37)**, data that are transmitted from said mobile communication network to said mobile station by an HO origin frequency **(figures 3, 5, col 5 lines 23-67, col 6 lines 42-53, describing information being transmitted in a hand-over compress mode via a downlink and uplink)** and wherein

said mobile station comprising combining means for receiving and combining data that are transmitted from said transmission means by the HO origin frequency and the HO destination frequency **(col 5 lines 55-67, col 6 lines 19-27, 43-53, describing a mobile station process data through a downlink via source base station frequency and a target base station frequency)**.

Kim does not specifically show identical. Virtanen discloses identical **(see the abstract, sections [2], [12], describing during a inter-frequency handover, a mobile station is able to receive/transmit data on a first frequency and simultaneously receive/transmit data on a second frequency, also disclosing the same user data can be carried over the links)**.

Since both Kim and Virtanen teach method and system for performing inter-frequency handover for compressed mode communications, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kim teaching, and have identical, taught by Virtanen, to improve the method for preparing an inter-frequency handover, as discussed by Virtanen **(see sections [1]-[5])**.

Consider claim 13, An inter-frequency HO (Hand Over) method of a mobile communication system that includes a mobile station and a mobile communication network to which this mobile station can connect by radio-waves, and that includes a compressed mode, which is a mode of intermittent communication having gaps in which communication is not carried out in mobile communication between said mobile station and said mobile communication network; said inter-frequency HO method comprising:

Kim discloses:

a transmission step wherein said mobile communication network, at a time of inter-frequency HO, uses said gaps to transmit to said mobile station by an HO destination frequency **(the abstract, col 1 lines 10-25, col 2 lines 29-37)**, data that are transmitted from said mobile communication network to said mobile station by an HO origin frequency **(figures 3, 5, col 5 lines 23-67, col 6 lines 42-53, describing information being transmitted in a hand-over compress mode via a downlink and uplink)**; and

a combining step wherein said mobile station receives and combines data that are transmitted by the HO origin frequency and the HO destination frequency in said transmission step **(col 5 lines 55-67, col 6 lines 19-27, 43-53, describing a mobile station process data through a downlink via source base station frequency and a target base station frequency)**.

Kim does not specifically show identical. Virtanen discloses identical **(see the abstract, sections [2], [12], describing during a inter-frequency handover, a mobile station is able to receive/transmit data on a first frequency and simultaneously receive/transmit data on a second frequency, also disclosing the same user data can be carried over the links)**.

Since both Kim and Virtanen teach method and system for performing inter-frequency handover for compressed mode communication, it would have been obvious to a person of ordinary skill in the art

at the time of the invention was made to modify Kim teaching, and have identical, taught by Virtanen, to improve the method for preparing an inter-frequency handover, as discussed by Virtanen **(see sections [1]-[5])**.

Consider claim 24, A mobile station that includes a compressed mode, which is a mode of intermittent communication having gaps in which communication is not carried out in mobile communication between the mobile station and a mobile communication network; said mobile station comprising:

Kim discloses:

transmission means for, at a time of an inter-frequency HO (Hand Over), using the gaps to transmit, to the mobile communication network by an HO destination frequency, data that are transmitted by an HO origin frequency from the mobile station to the mobile communication network **(see figure 5, col 1 lines 10-25, col 2 lines 29-37, col 5 lines 55-67, col 6 lines 1-53)**;

combining means for receiving and combining data that are transmitted by the HO origin frequency and the HO destination frequency from said mobile communication network using said gaps at the time of said inter-frequency HO **(col 5 lines 55-67, col 6 lines 19-27, 43-53, describing a mobile station process data through a downlink via source base station frequency and a target base station frequency)**.

Kim does not specifically show identical. Virtanen discloses identical **(see the abstract, sections [2], [12], describing during a inter-frequency handover, a mobile station is able to receive/transmit data on a first frequency and simultaneously receive/transmit data on a second frequency, also disclosing the same user data can be carried over the links)**.

Since both Kim and Virtanen teach method and system for performing inter-frequency handover for compressed mode communication, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Kim teaching, and have identical, taught by Virtanen, to improve the method for preparing an inter-frequency handover, as discussed by Virtanen **(see sections [1]-[5])**.

Consider claim 5, A mobile communication system according to claim 2, Kim, as modified by Virtanen, further discloses said mobile station comprising transmission means for, at the time of said inter-frequency HO, using said gaps to transmit, to said mobile communication network by the HO destination frequency, data that are identical to data transmitted from said mobile station to said mobile communication network by the HO origin frequency **(the abstract, col 1 lines 10-25, col 2 lines 29-37, figures 3, 5, col 5 lines 23-67, col 6 lines 42-53)**, and wherein each of a plurality of base transceiver stations that make up said mobile communication network includes combining means for, when an HO origin base transceiver station and an HO destination base transceiver station at the time of said inter-frequency HO are the same base transceiver station and this base transceiver station is its own base transceiver station, receiving and combining mutually identical data that are transmitted by the HO origin frequency and the HO destination frequency by said transmission means of said mobile station **(col 4 lines 25-43, col 5 lines 35-67, col 6 lines 32-52)**.

Consider claims 6, 17, A mobile communication system according to claims 5, 16, Kim, as modified by Virtanen, discloses wherein each of said plurality of base transceiver stations includes measurement means for measuring reception quality based on output data of its own said combining means, and based on this reception quality, implements variable control over a target reception quality that is used to control a transmission power of uplink between said mobile communication network and said mobile station **(sections [13], [16]-[17])**.

Consider claim 7, A mobile communication system according to claim 5, Kim, as modified by Virtanen, further discloses wherein a Radio Network Controller that is connected to a plurality of base transceiver stations that make up said mobile communication network includes selective combining means for, when the HO origin base transceiver station and the HO destination base transceiver station at the time of said inter-frequency HO are different base transceiver stations, receiving by way of said HO origin base transceiver station and said HO destination base transceiver station mutually identical data that are transmitted by the HO origin frequency and the HO destination frequency by means of said transmission means of said mobile station and selectively combining said received data **(figure 5, col 5 lines 55-67, col 6 lines 8-53).**

Consider claims 10, 21, 26, A mobile communication system according to claims 2, 13, 24, Kim, as modified by Virtanen, further discloses said mobile station comprising measurement means for measuring reception quality based on output data of said combining means and, based on this reception quality, implements variable control over a target reception quality that is used to control a transmission power of downlink between said mobile communication network and said mobile station, and wherein said reception quality is reception SIR (Signal-to-Interference Ratio), and said target reception quality is target SIR **(col 3 lines 43-67, col 4 lines 1-25, col 5 lines 60-67, col 6 lines 1-19)**.

Consider claims 11, 22 A mobile communication system according to claims 6, 17 Kim, as modified by Virtanen, discloses wherein said reception quality is reception SIR (Signal-to-Interference Ratio), and said target reception quality is target SIR **(sections [16]-[17], [19]).**

Consider claim 16, An inter-frequency HO method according to claim 13, Kim, as modified by Virtanen, further discloses said method comprising:

a transmission step wherein said mobile station, at the time of said inter-frequency HO, uses said gaps to transmit, to said mobile communication network by the HO destination frequency, data that are

identical to data that are transmitted from said mobile station to said mobile communication network by the HO origin frequency **(the abstract, col 1 lines 10-25, col 2 lines 29-37, figures 3, 5, col 5 lines 23-67, col 6 lines 42-53)**; and

a combining step whereby each of a plurality of base transceiver stations that make up said mobile communication network, when an HO origin base transceiver station and an HO destination base transceiver station at the time of said inter-frequency HO are the same base transceiver station and this base transceiver station is its own base transceiver station, receive and combine mutually identical data that are transmitted by the HO origin frequency and the HO destination frequency in said transmission step of said mobile station **(col 4 lines 8-25, col 5 lines 35-67)**.

Consider claim 18, An inter-frequency HO method according to claim 13, Kim, as modified by Virtanen, further discloses said method comprising:

a transmission step wherein said mobile station, at the time of said inter-frequency HO, uses said gaps to transmit, to said mobile communication network by the HO destination frequency, data that are identical to data that are transmitted from said mobile station to said mobile communication network by the HO origin frequency **(the abstract, col 1 lines 10-25, col 2 lines 29-37, figures 3, 5, col 5 lines 23-67, col 6 lines 42-53)**; and

a selective combining step wherein: when the HO origin base transceiver station and the HO destination base transceiver station at the time of said inter-frequency HO are different base transceiver stations, a Radio Network Controller that is connected to a plurality of base transceiver stations that make up said mobile communication network receives by way of said HO origin base transceiver station and said HO destination base transceiver station mutually identical data that are transmitted by the HO origin frequency and the HO destination frequency in said transmission step of said mobile station and selectively combines said received data **(figure 5, 60-67, col 6 lines 1-19, 42-54)**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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